

Claims

1. A method of setting up a session between peer user terminals of a communication system, said session extending at least in part across a circuit switched access network, the method comprising transporting signalling to initiate said session between at least one of the peer user terminals and said communication system via an IP based packet switched access network using a call control protocol which is also used for setting up end-to-end packet switched sessions, and subsequently establishing said session based upon said signalling.
2. A method according to claim 1, wherein said session requires one or more conversational bearers.
3. A method according to claim 2, wherein said session comprises non-conversational bearers established over said IP based packet switched network.
4. A method according to any one of the preceding claims, said at least one of the peer user terminals being a dual mode mobile terminal capable of using both said packet switched and circuit switched access networks.
5. A method according to any one of the preceding claims, wherein the signalling which initiates said session is Session Initiation Protocol, SIP, signalling exchanged between said at least one of the peer user terminals and a SIP server of an IP Multimedia Core Network Subsystem (IMS).
6. A method according to claim 5, wherein said SIP server notifies a gateway server when it receives a session initiation request which requires the establishment of one or more conversational bearers, the gateway terminating the circuit switched session within the system.
7. A method according to claim 6, wherein said SIP server and said gateway server are co-located.

8. A method according to claim 6 or 7, wherein the gateway provides interworking between the circuit switched session on the one side, and the packet switched session on the other side.
- 5 9. A method according to claim 8, wherein following notification from the server, the gateway notifies said at least one of the peer user terminals of a callback telephone number, and the peer user terminal calls that number to establish a circuit switched session with the gateway.
- 10 10. A method according to claim 9, where the notification of the callback number is transferred via the SIP server.
11. A method according to claim 10, the gateway mapping the established circuit switched session to the SIP signalling session on the basis of the used callback number.
- 15 12. A method according to any one of claims 9 to 11, the gateway selecting the callback number from a pool of available callback numbers.
13. A method according to any one of claims 5 to 12, the SIP server determining
20 that said session requires the establishment of a circuit switched session as a result of one or more of the following:
- properties of the system known to the SIP server;
 - prior notification by said at least one of the peer user terminals;
 - information contained in the SIP signalling initiating the session;
 - 25 properties defined for the peer user terminal;
 - prior notification from a visited network in the case of a roaming user terminal;
 - and
 - prior notification from the radio access network used by the peer user terminal.
- 30 14. A method according to any one of the preceding claims, wherein said at least one of the peer user terminals maps the established circuit switched session to the signalling session over the packet switched domain, such that both session can be terminated together.

15. A user terminal comprising means for using a circuit switched access network and means for using an IP based packet switched access network, and means for transferring signalling information, using a call control protocol which is also used for
5 setting up end-to-end packet switched sessions, over the packet switched network to initiate a session over the circuit switched network.

16. A Session Initiation Protocol server for use in an IP Multimedia Core Network Subsystem, the server comprising:

10 means for receiving an INVITE request from a user terminal, over an IP based packet switched domain, initiating a session;

means for determining that said session requires the setting up of one or more conversational bearers in the circuit switched domain; and

means for causing said conversational bearer(s) to be established.

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17. A gateway server for providing an interface between a circuit switched access network and a packet switched network, the gateway having an interface towards a Session Initiation Protocol server of an IP Multimedia Core Network Subsystem, and means for receiving from the SIP server signalling instructing the establishment of a
20 session over the circuit switched access network with a user terminal.